

# activities of reference laboratories & collaborating centres

## OIE twinning between the Egyptian National Laboratory for Quality Control of Poultry and the Friedrich-Loeffler-Institut, Germany, for avian influenza and Newcastle disease

In 2007, the World Organisation for Animal Health (OIE) started a programme of international laboratory partnerships, also known as 'twinning'. Under this programme, an established OIE Reference Laboratory is associated with a candidate reference laboratory in order to build capacity in the laboratory diagnosis of specific notifiable animal diseases. Avian influenza has been a special focus of the twinning programme, due to the emergence and (since 2005) accelerated spread of highly pathogenic avian influenza virus (HPAIV), of subtype H5N1, from Southeast Asia.



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A part from the enormous threat that this virus poses to the poultry industry, HPAIV H5N1 also has zoonotic potential and continues to threaten public health. Egypt has been experiencing outbreaks of HPAI H5N1 since 2006. As a result of the traditional Egyptian poultry-keeping methods and the geographical conditions of the country, the virus has become enzootic. This constitutes a major challenge, not only for the veterinary and public health

authorities in Egypt but also for Egyptian society in general.

This situation also prompted the Egyptian National Laboratory for Quality Control of Poultry Production (NLQP) and the Friedrich-Loeffler-Institut (FLI) Germany, (both of which are Reference Laboratories for Avian Influenza and Newcastle Disease), to apply to be twinned in 2008. This proposal focused on capacity-building for laboratory diagnosis of AIV and Newcastle disease virus (NDV) infections.

A launch meeting was held at the NLQP in November 2008, to introduce the teams and to evaluate the present capacities of the twinned working groups. Together, the working groups conducted a gap analysis, identified approaches to help augment capacities on both sides and agreed on a final working programme. Training visits of the Egyptian scientists to the FLI were a hallmark of the project: two female and eight male scientists took up the challenge of visiting the FLI laboratories which are situated on an isolated island in a

remote area of Germany. It would be hard to imagine a sharper contrast to life in greater Cairo!

**Key aspects of the training included: quality control for production of reference substances; validation, especially of molecular methods; and working conditions in a biosafety level 3 environment in laboratories and experimental animal facilities.**

During their exchange visits, both teams faced challenges in adapting to a different culture. The availability of a moderator/mediator, who was not only at home in both cultures but also an expert in poultry infectiology, proved to be a 'lifesaver' and contributed enormously to the final success of the project. In addition, a PhD student from the NLQP was working on his doctoral thesis at the FLI at the time of the twinning project, and was always available when help and advice were required, for example, to cope with

#### **A daily market in Giza**

Live bird markets are an essential source of poultry in Egypt. Transport of poultry along the Nile valley, as well as loading and unloading at these markets, is difficult to control and remains a central problem in the eradication of enzootic PAIV H5N1 infection



the complex security and biosafety measures at the FLI. Their efforts, and the efforts of many others, helped to build the mutual trust needed to conduct joint research. Studies on new antigenic drift variants of HPAIV H5N1 in Egypt, on the role of maternal antibodies in interfering with poultry vaccination, and new multiplex diagnostic assays were jointly published in peer-reviewed journals.

The success of the project prompted the OIE to extend it for another year. Although changes in the Egyptian political situation meant that a number of planned activities had to be deferred after this extension, the trust and cooperation built up during the twinning programme is still very much in evidence. In 2011, the FLI was happy to host four Egyptian scientists and a final scientific symposium took place in Cairo. This event was used to summarise the project's achievements and to venture a glimpse into the future, and was open to all interested colleagues from Egyptian universities, as well as guests from Arabic countries. This symposium also served a further goal of the twinning programme, which was to promote the twinned laboratory as a regional centre for diagnosing AIV and NDV infections. Lively exchanges occurred among representatives of the OIE, FAO and African Union and delegates from the Ministries of Agriculture of



**Launch meeting in November 2008 in Giza**

Scientists of the NLQP and the Head of the NLQP, Prof. Dr M. Aly, with their twinning guests from the Free University of Berlin (Prof. Dr Hafez) and the FLI (Prof. Dr Grund and Prof. Dr Harder). Front row, left to right: Walid H. Kilany, Hafez M. Hafez, Mona M. Aly, Shereen G. Kholousy, Mohamed A. Soliman. Back row, left to right: M.K. Hassan, Abdullah A. Selim, Abdel-Satar Arafa, Moustafal. Radwan, Timm harder, Christian Grund, Zakaria El-Kanawati.



**Final scientific symposium in Giza, September 2011**

Scientists from Egyptian universities join guests from Arab countries, the OIE, NLQP, African Union, FAO, Free University of Berlin and the FLI

Egypt, Qatar, Sudan and Tunisia. Since members of Egyptian universities and representatives of the poultry and vaccine-producing industries in Egypt were also present, a comprehensive dialogue unfolded on the continuing problems caused by HPAIV H5N1 and NDV in North Africa and the Middle East.

These two partners in the twinning project, the NLQP and the FLI, are both firm believers in

the specific achievements of the programme. They agree that the mutual trust and friendship built up over this time will provide an excellent foundation for future cooperation. It is hoped that the twinning project will also make a significant contribution towards better control of the HPAIV H5N1 situation in the region.